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A worldwide surveillance program studying the *In Vitro* Activity of Tigecycline and 10 common therapeutic agents against methicillin-resistant *Staphylococcus aureus* and Vancomycinresistant *Enterococcus species* from 2004—2009

B. Johnson[1,*], M. Renteria[1], J. johnson[1], R. Badal[1], S. Bouchillon[1], D. Hoban[1], M. Dowzicky[2]

[1] *International Health Management Associates, Inc., Schaumburg, IL, USA*
[2] *Pfizer Inc, Collegeville, PA, USA*

Background: The T.E.S.T. program determined the *in vitro* activity against methicillinresistant *S. aureus* and vancomycin-resistant *Enterococcus* spp. of TIG and 10 antimicrobials commonly prescribed for serious gram-positive infections: amoxicillin-clavulanic acid (AUG), piperacillin-tazobactam (PT), levofloxacin (LVX), ceftriaxone (CAX), linezolid (LZD), minocycline (MIN), vancomycin (VAN), ampicillin (AMP), penicillin (P), and meropenem (MER). Study strains were collected from 697 laboratories in 55 countries globally throughout 2004-2009.

Methods: A total of 27,846 clinical isolates (10,806 enterococci, 17,040 *S. aureus*) were identified to the species level at each participating site and confirmed by a central laboratory. Minimum Inhibitory Concentrations (MICs) were determined by the local laboratory using broth microdilution panels. Antimicrobial resistance was interpreted according to CLSI breakpoints with TIG susceptible breakpoints defined as <0.5 mcg/ml for *S. aureus* and <0.25 mcg/ml for enterococci.

Results: 12.8% (1,381/10,806) of enterococci were resistant to vancomycin (VRE), and 42.1% (7,174/17,040) of *S. aureus* were resistant to oxacillin (MRSA). Among the vancomycin resistant *E. faecium* (VREF), % resistant rates to other study drugs were LVX 99.3, P 98.5, AMP 98.3, VAN 100, MIN 10.8 and LZD 0.2. Percent resistant rates for MRSA were P 100, AMP 100, AUG 75.4, LVX 74.9, PT 65.8 CAX 46.5, IMP 24.4, MIN 1.3, LZD 0.0, and VAN 0.0. TIG inhibited 100% of the enterococci and *S. aureus* resistant to other drugs. Modal TIG MICs for VRE/nonVRE were 0.12/0.12, and 0.12/0.12 for MRSA/MSSA.

Conclusion: TIG retained potent activity against drug-resistant *S. aureus* and enterococcal isolates, inhibiting 100% of all strains tested at their defined breakpoints of 0.5 and 0.25 mcg/ml, respectively.

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The survey of risk factors of multi-drug resistant of *E. faecalis* isolated from clinical samples

R. Moniri

Kashan University of Medical Sciences, Kashan, Iran, Islamic Republic of

Background: During the last decade, enterococci have become important nosocomial pathogens, representing the second leading cause of urinary tract infections. This increasing prevalence has been paralleled by the occurrence of multi-drug resistant (MDR). The aim of this cross-sectional prevalence study was to determine the prevalence and risk factors of antibiotic resistance of *E. faecalis* isolated from clinical samples in hospitalized patients in Kashan, Iran.

Methods: This descriptive study was done on clinical specimens isolated from hospitalized patients. From September 2007 to 2008, a total of 106 *E.faecalis* isolates were collected from clinical specimens in Kashan hospitals. Antimicrobial susceptibility test was determined with disk diffusion and minimal inhibitory concentration of vancomycin assayed by E test.

Results: From 128 isolates were found to consist of Enterococcus faecalis 106(82.8%) and Enterococcus faecium 22 (17.2%). Resistance rates for *E.faecalis* were as follows: Erytromycin 52.8%; ciprofloxacin 40.6%; gentamicin, 38.7%; levofloxacin 34%; penicillin, 29.2%; nitrofurantoin 18.9%; ampicillin, 11.3%; Imipenem 10.4%; and vancomycin, 4.7% All isolate were sensitive to linezolid. Multidrug-resistant (MDR) phenotype (resistance to three or more of drugs) occurred in 37.7%. Risk factor for a VRE-positive culture were antimicrobial usage within 2 months before culture ($P = 0.045$).

Conclusion: Emergence of multi-resistant *E.faecalis* and high level resistance to vancomycin shown by *E.faecalis* strains is of concern because of the decrease in the therapeutic options for treatment of infections caused by enterococci.

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The relationship between macrolide resistance in *Streptococcus pneumoniae* and consumption of oral macrolides in Republic of Croatia and City of Zagreb

J. Vranes[1,*], J. Knezevic[2], B. Bedenic[3], D. Stimac[4], N. Jarza-Davila[4], M. Anusic[5]

[1] *Zagreb Institue of Public Health ''Andrija Stampar'', Zagreb, Croatia*
[2] *Zagreb Institute of Public Health ''Andrija Stampar'', Zagreb, Croatia*
[3] *School of Medicine, University of Zagreb, Clinical Hospital Center Zagreb, Zagreb, Croatia*
[4] *Zagreb Institute of Public Health ''Andrija Stampar'', Zagreb, Croatia*
[5] *Zagreb Institute of Public Health, Zagreb, Croatia*

Background: The aim of this study was to investigate the relationship between increased resistance of *Streptococcus pneumoniae* to macrolides and use of macrolides in Croatia